

Measles Investigation Summary

- ☐ **Use CPDHE's suspect measles case questionnaire to determine (1) whether reported case's symptoms are compatible with measles, (2) if the case is susceptible to measles, and (3) if the case was exposed to measles.**
- ☐ **Interview health care provider.**
 1. Obtain symptom history and onset dates
 2. Obtain immunization history (patient may have a positive IgM test if vaccinated within the last 3 months).
 - a. Ask for IZ history to be faxed to you for written proof
 - b. Check CIIS for vaccine history
 3. If the case was infectious while at the health care facility, identify contacts that had direct exposure to the case at the facility or who were in confined areas (such as exam rooms) up to 2 hours after the case was present.
 4. **Arrange and obtain appropriate diagnostic specimens:**
 - a. Serum in a serum separator tube for measles IgM testing.
 1. If clinician is sending the specimen to a commercial lab, ask what lab it is going to.
 - b. If within 10 days of rash onset, collect urine AND nasal wash or throat swab if possible for PCR and culture at CDC.
 - c. Specimens should be stored at 4°C until they are ready to be transported.
 - d. Call State/Regional Epidemiologist to discuss testing at CDC or CDPHE lab.
- ☐ **Report case by phone to CDPHE (24 hour reportable)**
 1. Consult with CDPHE Regional or State Epidemiologist and assess case status. Proceed with investigation if measles is likely.
- ☐ **Interview the patient (or parent/guardian).**
 1. Verify symptoms and onset dates
 2. Verify immunization history.
 3. Identify all contacts (4 days prior and 4 days after rash onset) that had direct exposure to the case (were in the same room, home, airplane etc.) or were in these areas up to 2 hours after the case was present.
 4. Determine probable source of infection by detailing the patient's activities 7-18 days prior to rash onset including travel or visitors from foreign countries.
- ☐ **Patients suspected of having measles should be excluded from work, school, or daycare and should voluntary self-isolate at home until 4 days after rash onset.**
 1. If lab confirmed, the case may be officially quarantined until 4 days after rash onset.
 2. If case needs additional medical attention, he/she should call the doctor first; do not show up at a medical care facility while infectious.
 3. Ensure **only** persons who are immune to measles are allowed to come in contact with case until at least four days after rash onset.
 4. Patient must be under airborne precautions in any medical facility. If facility cannot accommodate airborne precautions, patient must be referred to a facility that can accommodate. Hospital or ED facility must be contacted prior to patient arrival. Patient should be visited only by persons who are immune to measles.

- **Contact Management - Determine measles immunity status of all contacts.** Persons are considered to be immune to measles if: 1) they were born prior to 1957; or 2) they have had 2 measles containing vaccinations separated by at least 28 days, with the first dose on or after their first birthday; or 3) they have a positive antibody test for measles. Vaccination prior to 1968 is not considered adequate evidence of immunity unless there is documentation of live attenuated measles vaccine administration.
 1. If case is highly suspicious clinically of measles, determine measles immunity status of all contacts. Begin to collect information on measles immunity status of contacts closest to the case, i.e., household contacts, healthcare providers, and work and school contacts. Begin to focus on obtaining a list of places patient traveled to during infectious period, i.e., grocery store, pharmacy, restaurants, childcare, etc.
 2. Arrange urgent receipt of measles containing vaccine (MMR) for susceptible contacts age ≥ 6 months who were initially exposed within the past 72 hours, unless vaccine is contraindicated. (Note: receiving measles containing vaccine may abort infection in exposed persons if given within 72 hours of initial exposure.)
 3. Non-immune contacts who are unable to receive measles vaccine within 72 hours of exposure should be evaluated to determine if they are eligible for Immune globulin (IG). IG is indicated for certain household contacts of measles patients, particularly those for whom the risk for complications is increased (i.e. infants ≤ 12 months, pregnant women, or immunocompromised persons). Immune globulin (IG) should not be used to control measles outbreaks.
 4. Non-immune contacts who are unable to receive measles vaccine within 72 hours of exposure and who are not eligible for IG should be quarantined at home from the 7th through 18th day following exposure.
 5. If a measles exposure occurs within a health-care facility (e.g., hospital, clinic, physician office), all possibly exposed persons working at the facility without proof of measles immunity should receive a dose of MMR vaccine within 72 hours of exposure. Susceptible personnel who have been exposed to measles should be relieved from patient contact and excluded from the facility from the 5th to the 21st day after exposure or until the facility is declared measles-free, regardless of whether they received vaccine or immune globulin after the exposure. Personnel who develop measles should be relieved from patient contact immediately and may not return to the facility until 7 days after rash onset.
 6. If a measles exposure occurs within a school, all susceptible students and staff refusing measles containing vaccine or lacking proof of immunity to measles will be excluded from school until the outbreak is over, (i.e. until 18 days after the onset of rash in the last reported case).
- **Case Follow-up**
 1. Determine reported case classification; suspected, probable, or confirmed.
 2. Report case in CEDRS.
 3. For probable and confirmed cases, intensify surveillance by disseminating measles information to hospitals, emergency rooms, physicians, schools, and day care providers.

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For a more in-depth guide to measles investigations, see the measles chapter of CDPHE's Communicable Disease Manual: <http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607755419>